

Claims:

1. Method for mixture control in an internal combustion engine with a catalytic converter and a lambda probe downstream of said catalytic converter, involving the following steps:

5 - a control unit successively reads in lambda values (VLS_DOWN) measured by the lambda probe and compares the current lambda signal (VLS_DOWN) with a previously read-in lambda value (VLS_DOWN_OLD),

10 - if the comparison shows a fall in the lambda value, the control unit initiates a mixture change if a change in the lambda value (VLS_DOWN_GRD) is greater than a predetermined constant (C_VLS_DOWN_GRD_DYN),
if the lambda value has changed by less than the predetermined constant (C_VLS_DOWN_GRD_DYN), the control unit initiates a check to ascertain whether the lambda value (VLS_DOWN) continues to fall for a number of subsequent measured values.

20 2. Method according to claim 1, characterized in that, for checking the subsequent measured values, a reference value is calculated from the lambda value and a mixture change is initiated if more than a minimum number of measured values (C_CTR_VLS_DYN THD) has been checked and the reference value (FAC_VLS_DOWN) is less than a predetermined constant (C_FAC_VLS_DOWN).

25 3. Method according to claim 2, characterized in that for the lambda value (VLS_DOWN) a minimum value (VLS_DOWN_MIN) and a maximum value (VLS_DOWN_MAX) are defined and the reference value (FAC_VLS_DOWN) is determined as the quotient of the measured lambda value (VLS_DOWN) minus the minimum value divided by the difference between the maximum and minimum value.

30 35 4. Method according to claim 3, characterized in that the mixture change initiated by the control unit consists in a

change in the frequency and/or amplitude of a forced activation.

5. Method according to claim 4, characterized in that the mixture change consists in a suppression of the lean exhaust gas packets.

10 6. Method according to one of claims 3 to 5, characterized in that the minimum value (VLS_DOWN_MIN) and the maximum value (VLS_DOWN_MAX) are dependent on a current mass air flow (MAF) and/or the engine speed (N).

15 7. Method according to one of claims 1 to 6, characterized in that checking of the subsequent measured values ends if, within a predefined number of measured values (C_CTR_VLS_DOWN_CONST), the lambda values (VLS.DOWN) do not fall.

20 8. Method according to one of claims 1 to 7, characterized in that the predetermined constant for the fall in the lambda value (VLS_DOWN), the number of measured values to be checked and/or the minimum number of measured values takes place as a function of one or more operating points.

25 9. Method according to claim 8, characterized in that the operating point dependence takes account of the current exhaust gas composition.

30 10. Method according to one of claims 1 to 9, characterized in that the duration of monitoring and the number of lambda values to be monitored (VLS_DOWN) are on a time- or segment-dependent basis.

35 11. Method according to one of claims 1 to 9, characterized in that the monitoring period is dependent on the acidic mass balance.